CCS Technical Documentation
NEM-2 Series Transceivers

General Information

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NEM-2 Product Selection

The **NEM-2** is a dual Band transceiver unit designed for the GSM850/ DCS1900 networks. The RF requirements follow ETSI GSM850/DCS1900 specifications. The phone supports GPRS protocols and multi slot classes from 1 to 4. The phone is a power class 4 transceiver (2W).

The product is an entertainment and media phone, with focus on audio, gaming and messaging. It features a music recorder/player with stereo FM radio.

NEM-2 Product and modules

Name	Type code	Material code/ module type	Module code
Basic transceiver Nokia	NEM-2	0508530	
Engine module	EM21		0201917
UI module	EM20		0201970
Mechanic assembly parts			0262996
MCU software module			0243560
ADSP software module			0243561

Figure 1: NEM-2 transceiver

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Accessories List

Batteries	Product code:
Battery BLD-3 720mAH Li-Ion	0670352
Chargers	**Product code:**
AC Travel Charger ACP-7E (Chile, Bolivia, Peru) 207-253 Vac	0675144
AC Travel Charger ACP-7U (US) 108-132 Vac	0675143
AC Travel Charger ACP-7AR (Argentina) ? Vac	0675244
ACP-12E Travel Charger (Chile, Bolivia) 90-264 Vac	0675294
ACP-12U Travel Charger (US) 90-264 Vac	0675303
ACP-12UB Travel Charger (Brazil) 90-264 Vac	0675293
ACP-12AR Travel Charger (Argentina) 90-264 Vac	0675298
Portable Accessories	**Product code:**
Stereo Headset HDS-3	0694093
Stereo Headset HDS-3H	0694138
Boom Mono Headset HDB-4	0694094
Stereo Audio Line-in cable ADE-2	0630464
USB-cable DKU-2	0730238
Inductive Loopset LPS-4	0630443
Cigarette Lighter Charger LCH-9	0675120
TTY Accessory HDA-10	0694115
MMC cards	**Product code:**
MMC-card DTS-16	0630419
MMC-card DTS-32	434B044
MMC-card DTS-32	434B106
MMC-card DTS-64	434B107

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Technical Specifications

General Specifications of Transceiver NEM-2

Unit	Dimensions (mm) (L x W x T)	Weight (g)	Volume (cm^3)
Transceiver with BLD-3 720mAh Li-Ion battery pack	114.7 x 66.5 x 20.9	126	114.9

Parameter	Unit
Cellular System	GSM850, GSM1900
RX Frequency Band	GSM850: 869 - 894 MHz GSM1900: 1930 - 1990 MHz
TX Frequency Band	GSM850: 824 - 849 MHz GSM1900: 1850 - 1910 MHz
Output Power	GSM850 : +5 ...+33 dBm / 3.2 mW ... 2 W GSM1900: +0 ...+30 dBm / 1.0 mW ... 1 W
Number of RF Channels	GSM850: 124 GSM1900: 300
Channel Spacing	200 kHz
Number of TX Power Levels	GSM850 : 15 GSM1900: 16

Battery endurace

Nokia measurements of the operational times in GSM 850/ 1900 are:

Talk time	
Battery : BLD-3	
Talk time variations:	
Integrated Handsfree (IHF) talk time	
Standby time	
Battery: BLD-3	
Radio + HDS-3	
Radio + IHF	

Variation in operating times may occur depending on SIM card, network and usage settings, usage style and environments. Talk time is increased by up to 30% if half rate is

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active and reduced by 5% if enhanced full rate is active.

Note: Volume level 7 used in calculation. Calculated from talk times.

Note: Volume level 7 used in calculation. Phone idle.

Environmental conditions

Environmental condition	Ambient temperature	Notes
Normal operation	-10 °C ... +55 °C	Specifications fulfilled
Reduced performance	+55 °C ... +65 °C	Operational only for short periods
Intermittent operation	-20 °C ... -10 °C and +65 °C ... +85 °C	Operation not guaranteed but an attempt to operate will not damage the phone
No operation	-40 °C ... -20 °C	Operation not possible but an attempt to operate will not damage the phone
No operation or storage	< -40 °C and > +85 °C	No storage; an operation attempt may cause permanent damage
Charging allowed	-25 °C ... +60 °C	
Long term storage conditions	0 °C ... +40 °C	

Transceiver Features

Transceiver main HW parts / features include:

- GPRS
- Integrated Stereo FM radio
- Full graphic Colour Display
- Series 40 UI style with 4-way navigation and 2 soft keys
- Internal vibra
- Pop-Port (TM) System Connector
- Internal antenna (no connection for external antenna)
- Plug-in SIM-card below the back cover of the phone
- Plug-in MMC-card below the back cover of the phone

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Electrical Characteristics

Absolute Maximum Ratings

Parameter	Min.	Typical	Max.	Unit
Battery Voltage, Idle	-0.3		5.5	V
Battery Voltage, Call	-0.3		4.8	V
Charger Input Voltage	-0.3		16	V
Charging Current			850	mA

Supply Voltages

Parameter	Min.	Typical	Max.	Unit / Notes
Battery Voltage	3.1	3.6	4.2	V / SW cut-off 3.1 V

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